Name: Abby Simons Date: 7/6/10

Lesson Title: Equations Unit Title: Week 3

Grade Level: 8th

Objectives:

* Students will be able to solve 1 and 2 step equations
* Students will be able to translate word problems into equations.
* Students will be able identify errors in expressions that involve the order of operations
* Students will be able to describe the importance of the ancient Chinese mathematicians and their inventions

Set Induction:

* Take attendance
* Have students take out homework logs and fill in tonight’s homework
* Give students warmup sheet. As many expressions as they can fill out in 2 min. collect when time is up.
* (3 min)

Content Outline and Learning Activities:

* First, the Mathematical topic of the week!! Ancient Chinese Mathematicians!!
  + The ancient Chinese mathematicians – three golden ages in different dynasties..the Western and Eastern Han Dynasties; the Wei, Jin and the Northern and Southern Dynasties; the Song and Yuan Dynasties. Highest point of the development of mathematics in Song and Yuan Dynasties.
  + Dedicated to creating calculating methods, used these methods to solve equations. They called the advanced calculating methods “shu” or “art.”
  + A lot of ancient Chinese Mathematicians made contributions to the development of the world.
  + Mathematicians…
    - Zu Chongzhi – mathematician and astronomer. Approximated pi – 355/113 which is correct to 6 decimal places…
      * 355/113 = 3.14159292…
      * Pi = 3.141592654…
    - Liu Hui – great mathematician. His great works, The Nine Chapters on the Mathematical Art and The Sea Island Mathematical Manual very significant to mathematics in China
  + Mathematical Tool by ancient Chinese – abacus called suanpan which means “counting tray”
    - Usually 20 cm tall and comes in different widths, depending on its use.
    - Has 7 or more rods
    - Use beads on the rods for counting
    - Abacus can do multiplication, division, addition, subtraction, square root, and cube root operations
  + (5 min)
* Students will now go over how to translate word problems into equations. Handout notes sheet with steps for students and with examples – Translating Word Problems into Equations. We will do examples 1 and 2 together. (5 min)
* We will go over the Solving Equations Practice Problems from 7/1/10. Hand back sheets. Students we re-do the problems on a piece of paper using the techniques we just learned. (15 min)
* In order to review 1 and 2 step equations from last week, the students will be given an equations chart. They must identify the operations to be used to solve for the unknown variable (operations must be in the correct order). (15 min)

Closure:

* Hand out homework due 7/7/10 – Review of Equations
* As students what the distributive property, commutative property, associative property are?
  + Distributive.. a(b + c) = ab + ac
  + Commutative..a + b = b + a
  + Associative = (a + b) + c = a + (b + c)
* (2 min)

Evaluation Procedure:

* Homework 7/7/10 – Review of Equations

Additional Notes:

* Warm up sheet
* Warm up sheet answers
* Solving equations practice problems sheets from 7/1/10 and answers from 7/1/10 (in binder)
* Equations Chart
* Equations Chart answer guide
* Review of Equations Homework (incorrect uses of pemdas added into homework)
* Review of Equations Homework Answer Key (write in incorrect uses of pemdas answers)

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Warm Up!

You will have two minutes to complete as many problems as you can. SHOW ALL WORK.

1. 18 – 4 =
2. 19 + 36 =
3. 13 \* 18 =
4. 25 – 8 + 16 =
5. 36 \* 5 =
6. 12 + 56 =
7. 35 ÷ 5 =
8. 43 =
9. 162 =
10. 9 ÷ 3 – 3 =
11. 46 \* 2 + 18 – 32 =
12. (13 – 3 + 5) \* 2 =
13. 12 + 13 \* 5 =
14. 36 – 12 =
15. 18 + 6 ÷ 3 =
16. 34 + 29 – 5 =
17. 54 ÷ 9 =
18. 68 \* 2 ÷ 23 =
19. 85 + 13 – 29 =
20. (46 + 32) ÷ 6 =

Name: Answers

Date: 7/6/10

Warm Up!

You will have two minutes to complete as many problems as you can. SHOW ALL WORK.

1. 18 – 4 =14
2. 19 + 36 = 55
3. 13 \* 18 = 234
4. 25 – 8 + 16 = 33
5. 36 \* 5 = 180
6. 12 + 56 = 68
7. 35 ÷ 5 = 7
8. 43 = 64
9. 162 = 256
10. 9 ÷ 3 – 3 = 3 – 3 = 0
11. 46 \* 2 + 18 – 32 = 46 \* 2 + 18 – 9 = 92 + 18 – 9 = 101
12. (13 – 3 + 5) \* 2 = (15) \* 2 = 30
13. 12 + 13 \* 5 = 12 + 65 = 77
14. 36 – 12 = 24
15. 18 + 6 ÷ 3 = 18 + 2 = 20
16. 34 + 29 – 5 = 58
17. 54 ÷ 9 = 6
18. 68 \* 2 ÷ 23 = 68 \* 2 ÷ 8 = 136 ÷ 8 = 17
19. 85 + 13 – 29 = 69
20. (46 + 32) ÷ 6 = (78) ÷ 6 = 13

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Translating Word Problems into Equations

Procedure:

1. Read the problem carefully and figure out what it is asking you to find.
2. Assign a variable to the quantity you are trying to find.
3. Write down what the variable represents.
4. Re-read the problem and write an equation for the quantities given in the problem.
5. Solve the equation.
6. Answer the question in the problem.
7. Check your solution.

When solving these problems, follow these steps…

1. Ask yourself, “What am I trying to find?”
2. Assign a variable for the number
3. Write what the variable represents
4. Write an equation
5. Solve the equation
6. Answer the question in the problem
7. Check your answer
   1. See if both sides of the equal sign are equal by “plugging in” your answer.

Example 1 – When 6 is added to 4 times a number, the result is 50. Find the number.

1. What are we trying to find?
2. Assign a variable for the number.
3. Write down what the variable represents.
4. Write an equation
5. Solve the equation
6. Answer the question in the problem
7. Check your answer

Example 2 – Jose has a board that is 44 inches long. He wishes to cut it into 2 pieces so that one piece will be 6 inches longer than the other. How long should the shorter be?

1. What are we trying to find?
2. Assign a variable for the number
3. Write down what the variable represents
4. Write an equation
5. Solve the equation
6. Answer the question in the problem
7. Check your answer

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations Chart

Directions: You are given 1 and 2 step equations. In the chart, record the operations you would use to solve the problems. Make sure the steps are in the exact order that you would use to find the solution. Do not solve for the variables.

|  |  |  |
| --- | --- | --- |
| Equation | Step 1 Operation | Step 2 Operation |
| X + 6 = -2 |  |  |
| -9 + x = -5 |  |  |
| 8 = 3 + 5x |  |  |
| -7 = x + (-4) |  |  |
| 2x + (-9) = 9 |  |  |
| Y + 5 = -5 |  |  |
| 13 – x = 5 |  |  |
| 8 = 3 + x |  |  |
| -7 + 3x = 2 |  |  |
| 4x – 10 = 2 |  |  |

Name: Answers

Date: 7/6/10

Equations Chart

Directions: You are given 1 and 2 step equations. In the chart, record the operations you would use to solve the problems. Make sure the steps are in the exact order that you would use to find the solution. Do not solve for the variables.

|  |  |  |
| --- | --- | --- |
| Equation | Step 1 Operation | Step 2 Operation |
| X + 6 = -2 | Subtract 6 |  |
| -9 + x = -5 | Add 9 |  |
| 8 = 3 + 5x | Subtract 3 | Divide by 5 |
| -7 = x + (-4) | Add 4 |  |
| (x/2) + (-9) = 9 | Add 9 | Multiply by 2 |
| Y + 5 = -5 | Subtract 5 |  |
| 13 – x = 5 | Subtract 13 | Divide by -1 |
| 8 = 3 + x | Subtract 3 |  |
| -7 + 3x = 2 | Add 7 | Divide by 3 |
| 4x – 10 = 2 | Add 10 | Divide by 4 |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review of Equations Homework

THERE IS A BACK!

Directions: Solve the following problems. SHOW ALL WORK.

1. 2 + x = -6
2. 6 + 3x = 24
3. 27 – x = 19
4. 30 – 2x = 20

Directions: Write an equation. Then solve for the variable to find the solution to the question.

1. Ben bought 5 books for a total of $40. If each book cost the same amount, how much did he spend per book?
2. John wanted to build a tower that was 10 feet tall. He had two pieces of wood that were 3 feet each. How much should he cut another piece of wood to reach 10 feet?
3. Billy had 2 benches that hold 3 people each and an assortment of 1-person foldable chairs. If 10 guests are coming over, how many foldable chairs does he need?

Incorrect Uses of PEMDAS

Directions: All of the following problems are solved incorrectly. It is your job to act as the detective and identify the errors and calculate the correct solution by using the order of operations. SHOW ALL WORK

1. 5 \* 2 + 7 \* 3 =

10 + 7 \* 3 =

17 \* 3 = 51

1. 5 \* 4 + 9 – 1 =

5 \* 4 + 8 =

5 \* 12 = 60

1. 10 ÷ 2 + 3 =

10 ÷ 5 = 2

1. 19 – 5 \* 2 =

14 \* 2 = 28

1. 52 – 3 + 8 =

25 – 3 + 8 =

25 + 5 = 30

Name: Answer Key

Due Date: 7/7/10

Review of Equations Homework

THERE IS A BACK!

Directions: Solve the following problems. SHOW ALL WORK.

1. 2 + x = -6

X = -8

1. 6 + 3x = 24

3x = 18

X = 6

1. 27 – x = 19

-x = -8

X = 8

1. 30 – 2x = 20

-2x = -10

X = 5

Directions: Write an equation. Then solve for the variable to find the solution to the question.

1. Ben bought 5 books for a total of $40. If each book cost the same amount, how much did he spend per book?

40 = 5x… x =8. He spent $8 per book

1. John wanted to build a tower that was 10 feet tall. He had two pieces of wood that were 3 feet each. How much should he cut another piece of wood to reach 10 feet?

2\*3 + x = 10

6 + x = 10

X = 4… he should cut another piece of wood that is 4 feet long

1. Billy had 3 benches that hold 3 people each and an assortment of 1-person foldable chairs. If 13 guests are coming over, how many foldable chairs does he need?

3\*3 + x = 13

9 + x = 13

X = 4… he needs 4 foldable chairs

Incorrect Uses of PEMDAS (WRITE IN ANSWERS!)

Directions: All of the following problems are solved incorrectly. It is your job to act as the detective and identify the errors and calculate the correct solution by using the order of operations. SHOW ALL WORK

1. 5 \* 2 + 7 \* 3 =

10 + 7 \* 3 =

17 \* 3 = 51

1. 5 \* 4 + 9 – 1 =

5 \* 4 + 8 =

5 \* 12 = 60

1. 10 ÷ 2 + 3 =

10 ÷ 5 = 2

1. 19 – 5 \* 2 =

14 \* 2 = 28

1. 52 – 3 + 8 =

25 – 3 + 8 =

25 + 5 = 30

Name: Abby Simons Date: 7/7/10

Lesson Title: Simplifying Equations Unit Title: Week 3

Grade Level: 8th

Objectives:

* Students will be able to identify like-terms
* Students will be able to define the distributive property

Set Induction:

* Take attendance
* Have students take out their homework logs and fill in tonight’s homework
* (2 min)

Content Outline and Learning Activities:

* Have students take out their homework from last night – Review of Equations worksheet from 7/6/10. Go over answers. Collect homework when finished. (5 min)
* Review solving equations practice problems form 7/1/10 (finished them yesterday on 7/6/10)… review tips for translating word problems into equations. (5 min)
* Introduction into simplifying equations…
  + Two groups. Variables and constants. Want to put all variables on one side and all constants on another. Review vocabulary terms – (1) variable = something that can be anything. Unknown we usually solve for in equations. (2) constants = a fixed value. The (integers) numbers in an algebraic expression.
  + (5 min)
* Activity for showing students like terms…
  + Give students a handful of starbursts. They will have to separate the starbursts by color. I will write on the board – red = r, yellow = y, pink = p, orange = o. on a sheet of paper, they will collect all this information. Combining similar colors. Then they will pair up and join like-terms with another student. Each student will then present how many of each they have, including when they paired with another student. They are to see that the different colors are paired by like-terms. Here, each color is the like-terms.
  + (15 min)
* Explain the concept of like terms to the students and relate to starburst activity (3 min)
* Hand out Combining Like Terms Worksheet. Students will complete and then we will review when everyone is finished. (5 min)
* Distributive Property of addition!!
  + I will have the students take notes on the distributive property.
    - a(b + c) = ab + ac
  + We will do practice examples of the distributive property on the board.
    - 3(y + 4) = 3y + 12
    - 13(6 + w) = 78 + 13w
    - 4(3 + x) = 12 + 4x
  + (5 min)

Closure:

* Handout homework – Simplifying Equations and the Distributive Property due 7/8/10

Evaluation Procedure:

* Simplifying Equations and the Distributive Property Homework due 7/8/10

Additional Notes:

* Review of Equations homework from 7/6/10
* Starbursts for combining like terms activity
* Combining Like Terms Worksheet
* Combining Like Terms Answers
* Simplifying Equations and the Distributive Property Homework
* Simplifying Equations and the Distributive Property HW answers

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Combining Like Terms Practice

Directions: simplify the following equations by combining like terms

1. 3x -5 + x + 3 =
2. (4x -2) + (8x + 10) =
3. 3m + 5 – 7 =
4. 4 + 18 – x =
5. (-3x + 2) + (8x -15) =
6. 7c + 4 – 2c =
7. 2a – 6a =

Name: Answers

Date: 7/7/10

Combining Like Terms Practice

Directions: simplify the following equations by combining like terms

1. 3x -5 + x + 3 =

4x – 2

1. (4x -2) + (8x + 10) =

12x + 8

1. 3m + 5 – 7 =

3m – 2

1. 4 + 18 – x =

22 – x

1. (-3x + 2) + (8x -15) =

5x – 13

1. 7c + 4 – 2c =

5c + 4

1. 2a – 6a =

-4a

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Simplify Equations and the Distributive Property Homework

Directions: simplify the following expressions

1. (x + 6) + (3x + 3) =
2. (2m + 4) + (5m – 6) =
3. 12 – 7y + 4y =
4. 2(7x – 15) =
5. 3(3m + 17) + 15 =
6. (5a – 13) + (-4a + 12) + (9a – 1) =
7. –m – 19 + 23 + 4m =
8. 6(2a + 6b) =
9. (-8x -13) + 15 =
10. 12(11x – y) =

Name: Answer Key

Due Date: 7/8/10

Simplify Equations and the Distributive Property Homework

Directions: simplify the following expressions

1. (x + 6) + (3x + 3) = 4x + 9
2. (2m + 4) + (5m – 6) = 7m – 2
3. 12 – 7y + 4y = 12 – 3y
4. 2(7x – 15) = 14x – 30
5. 3(3m + 17) + 15 = 9m + 51 + 15 = 9m + 66
6. (5a – 13) + (-4a + 12) + (9a – 1) = 10a – 2
7. –m – 19 + 23 + 4m = 3m + 4
8. 6(2a + 6b) = 12a + 36b
9. (-8x -13) + 15 = -8x + 2
10. 12(11x – y) = 132x – 12y

Name: Abby Simons Date: 7/8/10

Lesson Title: Simplifying Equations Unit Title: Week 3

Grade Level: 8th

Objectives:

* Students will be able to define the commutative and associative properties of addition
* Students will be able to solve equations by using the simplification properties we discussed
* Students will be able to write and solve their own word problems that use equations to solve for the answers.

Set Induction:

* Take attendance
* Hand back any papers
* Have students take out their homework logs and fill in tonight’s homework
* (3 min)

Content Outline and Learning Activities:

* Have students take out their homework from last night – Simplifying equations and the distributive property from 7/7/10. When finished reviewing, collect homework from students. (7 min)
* We will discuss two other properties that can be used when simplifying equations…the commutative and associative property of addition.
  + To show the students the commutative property, have two students come up to the front of the classroom. One will stand on right, other will stand on left. So we know both are there in front of us. What if I switch the order they are standing in? will they both still be standing there? Yes! Even though they have a different order, since they are being added together, they are still both there.
  + To show the students the associative property, have three students come up to the front of the classroom. Have to students link together (as if they were being added first in the parentheses) and the other student will stand next to them. Now rearrange the students by linking the last two and having the first student stand by him/herself. Now ask the students, when I switched the order of the students did I do anything? Noo still same number of students up there. This is a property of addition, can switch the link and it does not affect the final answer.
  + Now the students will take notes on the commutative and associative properties of addition.
    - Commutative … a + b = b + a
    - Associative … (a + b) + c = a + (b + c)
  + (8 min)
* Handout worksheet on solving equations and simplifying equations. Students will complete and then we will go over. (8 min)
* With students, we will write algebra expressions that represents each verbal expression. Similar to use making the expressions before from the integer word problems. However, now we could be including a variable.
  + The number of days in w weeks… answer = 7w
  + The number of entertainment coupon books sold, b, multiplied by the amount per book, $5 … answer = 5b
* Give the students ten minutes to create their own word problems that must be solved using an equation. They will hand in two word problems to me (with answers) and I will type them up and tomorrow they will solve the class’s problems. (10 min)

Closure:

* Hand out homework to students due tm 7/9/10 – Equations homework
* Review key terms
  + Variable
  + Expression
  + Equation
  + Associative property
  + Commutative property
  + Distributive property
  + Like terms
* (5 min)

Evaluation Procedure:

* Equations homework due 7/9/10

Additional Notes:

* Simplifying equations and the distributive property answer key
* Solving equations and simplifying equations worksheet
* Solving equations and simplifying equations worksheet answers
* Type up of student questions for 7/9/10
* Equations homework
* Equations homework answer key

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Solving Equations and Simplifying expressions

Directions: Solve the following problems. Simplify when necessary.

1. 3(y + 4) = 0
2. (4x – 2) + 3x = 5
3. 13y – 24 = 5y
4. 7x = 42
5. 8y + 3 = 57 – y

Name: Answer Key

Date: 7/8/10

Solving Equations and Simplifying expressions

Directions: Solve the following problems. Simplify when necessary.

1. 3(y + 4) = 0

3y + 12 = 0

3y = -12

Y = -4

1. (4x – 2) + 3x = 5

7x -2 = 5

7x = 7

X = 1

1. 13y – 24 = 5y

8y – 24 = 0

8y = 24

Y = 3

1. 7x = 42

X = 6

1. 8y + 3 = 57 – y

9y = 54

Y = 6

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Equations Homework

1. Directions – Identify the property of addition used (either distributive, associative, commutative, or neither)
   1. 4(3 + r) = 12 + 4r \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. 2 + 4x = 4x + 2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. 12(w + 2) = 12w + 14 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. 3 + (w + c) = (3 + w) + c \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. 43 + 13 = 77 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Directions – write an algebraic expression that represents each verbal expression
   1. The number T times 3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. 17 less than a number C \_\_\_\_\_\_\_\_\_\_\_\_\_
   3. 15 more than R \_\_\_\_\_\_\_\_\_\_\_\_\_
   4. Jamie buys a carton of eggs every month and gives two eggs to her roommate. Let e be the number of eggs in a carton. Represent the total number of eggs that Jamie has for herself for a 6-month period.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name: Answer Key

Due Date: 7/9/10

Equations Homework

1. Directions – Identify the property of addition used (distributive, associative, commutative, or none)
   1. 4(3 + r) = 12 + 4r distributive

* 1. 2 + 4x = 4x + 2 commutative
  2. 12(w + 2) = 12w + 14 distributive
  3. 3 + (w + c) = (3 + w) + c associative
  4. 43 + 13 = 77 none

1. Directions – write an algebraic expression that represents each verbal expression
   1. The number T times 3 3T
   2. 17 less than a number C C – 17
   3. 15 more than R R + 15
   4. Jamie buys a carton of eggs every month and gives two eggs to her roommate. Let e be the number of eggs in a carton. Represent the total number of eggs that Jamie has for herself for a 6-month period.

6(e – 2) = 6e – 12

Name: Abby Simons Date: 7/9/10

Lesson Title: Equations, Word Problems, and Review Unit Title: Week 3

Grade Level: 8th

Objectives:

* Students will be able to solve algebraic word problems made by their classmates
* Students will be able to simplify and solve equations
* Students will be able to recall integer operations, absolute value, comparisons, PEMDAS, 1 and 2 step equations, and how to simplify equations

Set Induction:

* Take attendance
* Hand back any papers
* Have students fill out their homework log and fill in tonight’s homework
* On the board have a warmup written. Ask the students to write algebraic expressions that represent a verbal expression.
  + Three less than 5 times G 5G – 3
  + 80 more than D D + 80
* (3 min)

Content Outline and Learning Procedures:

* Students will take out their homework from last night – Equations homework form 7/8/10. Go through answers. Collect homework when finished. (7 min)
* I will hand out the word problems worksheet of the students’ questions from last night. The students will complete the problems and then will hand in the worksheet to me. (15 min)
* We will take the next 5 min to review all the key things we learned this week about equations. Students will define equation, expression, variable, 1-step equation, 2-step equation, like terms, commutative property of addition, associative property of addition, and commutative property of addition. (5 min)
* Math – Jeopardy of all the material learned the past three weeks!
  + Students will be on two teams.
  + All questions will be a review of the past three weeks of material.
  + The categories will be Integer Operations, Word Problems, Comparing Integers, PEMDAS, absolute value, and simplifying equations.
  + I will create a poster with the categories on it and each number that will correspond to a question on a notecard to tell the student.
  + (15 min)

Closure:

* Finish the Math – Jeopardy game for the rest of the period
* No homework tonight, it’s Friday

Evaluation Procedure:

* None, it’s Friday!

Additional Notes:

* Equations homework answer from 7/8/10
* Word problems worksheet that I made 7/8/10 with all the students questions. Plus, answer key.
* Math – Jeopardy game poster board
* Math – Jeopardy game questions (questions will be written onto notecards)

Math – Jeopardy Questions and Answers

Integer Operations

1. 43 – 18 = 25
2. 25 \* 3 = 75
3. 6 – 19 = -13
4. 36 ÷ 4 = 9
5. 5 + (-3) = 2
6. 19 + 21 = 40
7. -8 – (-2) = -6
8. 3 \* 15 = 45

Word Problems

1. Sue went to the grocery store and bought 6 loaves of bread and spent a total of $24. How much did each loaf of bread cost? (write an equation to solve)

Answer… 24 = 6x x = $4 .. each loaf cost $4

1. Jon went rock climbing last weekend. He climbed up 8 feet and got scared and came back down to the ground. He then had enough courage to climb up another 12 feet. How high is Jon now?

Answer… 8 – 8 + 12 = 12 feet high

1. Mary wanted to give out candy to her friends at her birthday party. 15 of her friends came to her party. If she gave each person a bag of candy with 6 pieces of candy in each, how much candy did she give out?

15 \* 6 = 90 pieces of candy

Comparing Integers

1. 4 \_<\_ 18
2. -23 \_>\_ -50
3. 12 + 3 \_>\_ 6 – 2
4. 73 \* -1 \_<\_ 14 ÷ 2
5. 3 – 3 \_=\_ 0

PEMDAS

1. 32 ÷ 4 + 16 = 8 + 16 = 24
2. (3 – 5) \* 22 = (-2) \* 4 = -8
3. 36 – 18 ÷ 2 = 36 – 9 = 27
4. 15 ÷ 3 \* 42 – 18 = 15 ÷ 3 \* 16 – 18 = 5 \* 16 – 18 = 80 – 18 = 62
5. 3 \* 6 + 18 ÷ 3 = 18 + 6 = 24

Absolute Value

1. |-23| = 23
2. The opposite of |15| = -15
3. The opposite of |-3| = -3
4. |14| \_=\_ |-14|
5. -2 \_<\_ |18|

Simplifying Equations

1. Solve for the variable, 3x – 5 = 10 x = 5
2. Simplify the expression, 4(12 + y) = 48 + 4y
3. Identify the property, 9 + d = d + 9 commutative
4. Solve for the variable, (w/2) – 8 = 6 w = 28
5. Identify the property, (3 + 2v) + 18 = 3 + (2v + 18) associative